

**ACTIVE/PASSIVE MONOLITHICALLY INTEGRATED  
CHANNEL FILTERING POLARIZATION SPLITTER**

**ABSTRACT OF THE DISCLOSURE**

5           An InP on-chip polarization splitter is proposed base on an arrayed  
waveguide grating that is composed of waveguides having birefringence. The  
present invention also performs channel filtering and demultiplexing that is  
useful in WDM/DWDM applications. The required waveguide structure is  
formed using active-passive monolithic integration platforms, providing the  
10   integration of the polarization splitter with active devices as well as passive  
devices.